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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/611,269	07/06/2000	Seiji Hashimoto	35.C14610	4807
5514	7590	03/15/2005	EXAMINER	
FITZPATRICK CELLA HARPER & SCINTO			TRAN, NHAN T	
30 ROCKEFELLER PLAZA			ART UNIT	
NEW YORK, NY 10112			PAPER NUMBER	

2615

DATE MAILED: 03/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/611,269

Applicant(s)

HASHIMOTO, SEIJI

Examiner

Nhan T. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 2, 4, 7 and 35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 35 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4 and 7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 November 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114I.

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/3/2005 has been entered.

Drawings

2. The replacement of drawings (Figs. 1 & 2) was received on 11/01/2004. The drawings are accepted.

Response to Arguments

3. Applicant's arguments filed 1/3/2005 with respect to claim 1 have been fully considered but they are not persuasive.

Regarding independent claim 1, the Applicant asserts that Shigeki reference should not be deemed to disclose the detecting portion, or the switching portion as required in claim 1, and that Shigeki reference does not provide any suggestion for combining its teachings with those of

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Kozuka patent. In response, the Examiner respectfully disagrees. First, Shigeki clearly discloses detecting a sum of a pickup signal component and a total smear component if the sum exceeds a predetermined value or not and stopping deduction operation in case when the sum exceeds the predetermined value (see Abstract and Fig. 8). It is seen that both detection portion for detecting an objection condition (image noise) and a switching portion are taught by Shigeki. As described in the abstract, the output signals of the amplifiers 151, 152 are detected by comparator 291, 292 and when amplitudes thereof exceed the electric potential, the deduction is not carried out (switching off). Secondly, Shigeki also provides a motivation to prevent noise signal from being excessively deducted when noise removal is carried out. Therefore, Kozuka's imaging device would be modified in view of the teaching of Shigeki to include the detection portion and switching portion to prevent the signals to be excessively deducted when a sum of signals and noise exceeds a predetermined value.

It should be noted that a drive control portion is inherent in Kozuka in order for the imaging device to function as disclosed.

Applicant's argument with respect to claim 35, which includes all limitations of claim 1 and previously allowable claim 3, has been fully considered and are persuasive. Therefore, claim 35 is allowed over prior art of record.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 2, 4 & 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kozuka (US 6,538,693) in view of Shigeki et al (JP 61-128681).

Regarding claim 1, Kozuka discloses an image pickup apparatus comprising: a plurality of pixels each including a photoelectric conversion portion (photodiode 1) which converts an optical signal from an object into an electrical signal and a read portion (MOS 3) which reads out the signal from the photoelectric conversion portion to an output line (see Fig. 1A);

an inherent drive control portion which controls a first mode for reading out from the read portion a pixel noise signal which is obtained by resetting an input portion of the read portion (e.g., the gate of MOS 3 is reset by reset unit; Fig. 1A and col. 4, line 59 – col. 5, line 7), and a second mode for reading out from the read portion an image signal which includes a signal generated by the photoelectric conversion portion (col. 5, lines 8-10); a correction portion (differential amplifier 15) which subjects the image signal read out from the read portion, to correction processing which uses the pixel noise signal (see Abstract, col. 5, lines 23-32 and col. 6, lines 46-50). It should be noted that the drive control portion must be implemented in order for the apparatus to function as disclosed.

Although Kozuka discloses the noise signal removal unit comprising buffer amplifiers (14, 14') and a differential amplifier (15) for correction processing, Kozuka does not teach a detection portion which detects an object condition, and a switching portion which switches over the correction processing of the correction portion in accordance with an output of the detection

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portion. As taught by Shigeki, comparators (291, 292) are used to detect an object condition by virtue of the sum of the image signal and pixel noise signal output from amplifiers (151, 152). When the amplitudes of the output of the amplifiers (151, 152) exceed the electric potential, the correction processing at a differential amplifier (16) is not carried out (switching OFF) to prevent excessive deduction of noise signal (see Fig. 8 and Abstract).

Therefore, it would have been obvious to one of ordinary skill in the art to enhance the image pickup apparatus in Kozuka by modifying the noise signal removing unit to include a detection circuit which detects the object condition by virtue of signal amplitudes output from the buffer amplifiers when the amplitudes exceed a reference amplitude so that the differential processing would not be carried out at the differential amplifier 15 thereby preventing the signals to be excessively deducted, which would degrade image quality.

Regarding claim 2, the combination of Kozuka and Shigeki teaches that the comparators (291, 292) detect a signal level (total signal level) when it is higher than a predetermined value (see Shigeki, Abstract).

Regarding claim 4, see the analysis of claim 1.

Regarding claim 7, the combination of Kozuka and Shigeki also teaches that when the differential amplifier is not carried out, the switching portion (171, 172) is used to replace a signal output from the differential amplifier with a signal of a predetermined level (a signal of saturation level) (see Shigeki, Abstract). It is noted that the switching portion comprises an

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internal switch of the differential amplifier to switch off differential processing and external switches 171 and 172.

Allowable Subject Matter

5. Claim 35 is allowed. The following is an examiner's statement of reasons for allowance: The prior art of record fails to teach or fairly suggest the *combination of all limitations* required in claim 35 that includes "...wherein said detection portion detects that a signal level of the pixel noise signal is higher than a predetermined value."

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

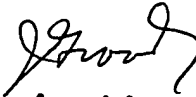
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhan T. Tran whose telephone number is (571) 272-7371. The examiner can normally be reached on Monday - Thursday, 8:00am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Groody can be reached on (571) 272-7950. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NT.


James J. Groody
Supervisory Patent Examiner
Art Unit 262 2615